

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for manufacturing a radiation image conversion panel, comprising the steps of:

a) calcining a stimulable phosphor in a furnace at a furnace temperature of 750-900°C for 2 to 6 hours ~~having an atmosphere comprising nitrogen~~, then reducing the temperature of the furnace to 750°C or less over a period of at least 30 minutes ~~and thereafter replacing the atmosphere comprising nitrogen with an atmosphere of nitrogen and oxygen~~ to form a calcined product of stimulable phosphor;

b) dispersing the calcined product of stimulable phosphor in methyl ethyl ketone with a propeller stirrer to obtain a slurry, wherein the amount of the stimulable phosphor is 10 to 300 parts by weight per 100 parts by weight of methyl ethyl ketone;

c) eliminating grains that are of at least a predetermined size from the slurry of step b) using wet classification wherein a final mesh in the wet classification is no more than 50 µm;

d) adding to the slurry of step c) a polyurethane binder that is substantially soluble therein, to prepare a coating material, wherein the polyurethane binder and the stimulable phosphor are mixed in a ratio of 1:8 to 1:40; and

e) applying the coating material to a support and drying to thereby form a phosphor layer;

wherein the stimulable phosphor is BaFBr:Eu, BaFI:Eu or a mixture thereof.

2. (Cancelled)

3. (Original) A method for manufacturing a radiation image conversion panel according to claim 1, further comprising the step of adjusting density of stimulable phosphor in the slurry by concentrating the slurry after the step of eliminating grains that are of at least a predetermined size, and prior to the step of adding a binder.

4. (Original) A method for manufacturing a radiation image conversion panel according to claim 1, wherein the step of eliminating grains that are of at least a predetermined size, includes repeating wet classification a plurality of times.

5-8. (Cancelled)

9. (Original) A method for manufacturing a radiation image conversion panel according to claim 1, wherein the step of eliminating grains that are of at least a predetermined size, includes wet classification employing at least one process selected from the group consisting of filtration and screen vibration.

10. (Original) A method for manufacturing a radiation image conversion panel according to claim 1, wherein the step of eliminating grains that are of at least a predetermined size, includes using wet classification employing meshes arranged in a plurality of stages having decreasing mesh sizes.

11. (Original) A method for manufacturing a radiation image conversion panel according to claim 9, wherein the filtration is pressure filtration.

12. (Original) A method for manufacturing a radiation image conversion panel according to claim 3, wherein the step of adjusting density, includes concentrating the slurry by decantation.

13. (Cancelled)

14. (Currently amended) A method for manufacturing a radiation image conversion panel, comprising the steps of:

a) dispersing a calcined product of stimulable phosphor in a dispersion medium, to obtain a slurry;

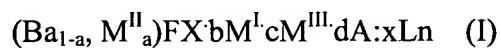
- b) eliminating grains that are of at least a predetermined size from the slurry of step a), using wet classification;
- c) substituting the dispersion medium with a solvent capable of substantially dissolving the binder, while maintaining a slurry in steps (a) - (c);
- d) adding to the slurry of step c), a binder that is substantially soluble therein, to prepare a coating material; and
- ~~d) applying e)~~ applying the coating material to a support and drying to thereby form a phosphor layer.

15. (Original) A method for manufacturing a radiation image conversion panel according to claim 14, wherein the step of substituting the dispersion medium includes concentrating the slurry to adjust density of a stimulable phosphor in the slurry.

16. (Original) A method for manufacturing a radiation image conversion panel according to claim 14, wherein the step of eliminating grains that are of at least a predetermined size, includes repeating wet classification a plurality of times.

17. (Original) A method for manufacturing a radiation image conversion panel according to claim 14, wherein the step of eliminating grains that are of at least a predetermined size, includes using a final mesh size in the wet classification of no more than 50 μm .

18. (Previously presented) A method for manufacturing a radiation image conversion panel according to claim 14, wherein the step of dispersing includes providing a calcined product of a stimulable phosphor that is a rare earth-activated alkaline earth metal fluoro-halide based phosphor, represented by a constitutional formula (I) as follows:



wherein, M^{II} indicates at least one kind of alkaline earth metal selected from the group consisting of Sr, Ca, and Mg; M^{I} indicates at least one kind of alkali metal selected from the group consisting of Li, Na, K, Rb, and Cs; M^{III} indicates at least one kind of trivalent metal

selected from the group consisting of Al, Ga, In, Tl, Sc, Y, Cd, and Lu, wherein compounds that contain M^{III} exclude Al₂O₃; X indicates at least one kind of halogen selected from the group consisting of Cl, Br, and I; Ln indicates at least one kind of rare earth element selected from the group consisting of Ce, Pr, Sm, Eu, Gd, Tb, Dy, Ho, Nd, Er, Tm, and Yb; A indicates at least one kind of metallic oxide selected from the group consisting of Al₂O₃, SiO₂, and ZrO₂; and a, b, c, d and x are respectively set so as to satisfy relational expressions 0 ≤ a ≤ 0.3, 0 ≤ b ≤ 2, 0 ≤ c ≤ 2, 0 ≤ d ≤ 0.5, and 0 < x ≤ 0.2.

19. (Original) A method for manufacturing a radiation image conversion panel according to claim 15, wherein concentrating the slurry includes using decantation.

20. (Currently amended) A method for preparing a coating material for a radiation image conversion panel, comprising the steps of:

(a) dispersing a calcined product of stimulable phosphor in a dispersion medium, to obtain a slurry;

(b) eliminating grains that are of at least a predetermined size from the slurry, using wet classification wherein a final mesh in the wet classification is no more than 50 µm; and

(c) adding a binder to the slurry that is substantially soluble therein, to form a coating material,

wherein the stimulable phosphor is represented by formula (I')

BaFX:xLn (I')

wherein X represents at least one halogen selected from the group consisting of Cl, Br, and I; Ln represents at least one rare earth element selected from the group consisting of Ce, Pr, Sm, Eu, Gd, Tb, Dy, Ho, Nd, Er, Tm, and Yb; and x satisfies the relational expression 0 < x ≤ 0.2.

21-23. (Cancelled)

24. (Previously presented) A method for manufacturing a radiation image conversion panel according to claim 1, further comprising a step of forming a light reflection layer on the support prior to applying the coating material and a step of forming a protective film on the dried phosphor layer.